

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the matter of)	
Connect America Phase II Challenge Process)	WC Docket No. 14-93
)	DA 14-1397
Reply Submitted By)	
Jade Communications, LLC)	

To: Wireline Competition Bureau

**STATEMENT OPPOSING SERVED-TO-UNSERVED CHALLENGES
FILED BY
FAIRPOINT COMMUNICATIONS AND CENTURYLINK**

Table of Contents

Summary	1
1. Jade Offers Unsubsidized, Unlimited Broadband Internet and Voice Services in the Subject Census Blocks	2
2. Jade Has Physical Assets Serving the Challenged Census Blocks	4
3. Jade Has Many Customers In the Area Which Surrounds the Challenged Census Blocks ...	5
4. Jade's Unlimited Broadband Internet and Fixed Telephone Voice Services Are Reasonably Comparable to Offerings In Urban Areas	7
Exhibit 1 -- A map depicting Jade's Wireless transmit sites, the associated wireless service areas, and the location of the challenged Census Blocks.	
Exhibit 2 -- Copies of Jade's Broadband Internet and Fixed Telephone Voice Service customer applications. The applications show Jade's speed, pricing and other service information.	
Exhibit 3 -- Exemplar screen shots of Jade's service availability tool.	
Exhibit 4 -- Spec Sheets for Jade's Access Point and Subscriber Equipment	
Exhibit 5 -- Close Up View of Partial Coverage Area	
Exhibit 6 -- Pertinent Pages from the Commission's 2008 Form 477 Listing Showing Jade as a Fixed Telephone Voice and Internet Broadband Service Provider	

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Jade Communications, LLC (Jade), by its attorney, pursuant to the Commission’s September 26, 2014 *Public Notice*, DA 14-1397, hereby submits its Statement regarding various “served-to-unserved” Census Block challenges filed by Fairpoint Communications, Inc. and CenturyLink, Inc. relating to various Census Blocks in the following four Colorado Counties: Costilla, Alamosa, Rio Grande, and Conejos. In reply thereto, the following is respectfully submitted:

Summary

1) Jade offers and provides both unlimited Broadband Internet service and fixed telephone voice service to more than 1800 subscribers throughout the area which includes the challenged Census Blocks. Jade utilizes the Cambium PMP 450 product produced and distributed by Cambium Networks <http://www.cambiumnetworks.com/products/pmp/pmp-450> to offer and to provide unlicensed, unlimited Broadband Internet and fixed telephone voice services to the public. Jade’s public offering of Broadband Internet and fixed telephone voice services can be viewed at www.gojade.org. Click on the “Fill Out Application For Service” link to see Jade’s broadband Internet services and rates: <http://www.emailmeform.com/builder/form/8Q9Zlac5tbi4w>. Click on the “Digital Phone PDF” link for Jade’s fixed telephone voice service rates:

<http://www.gojade.org/documents/Application%20for%20Digital%20Phone%20Service.pdf>. As explained below, the Commission should reject Fairpoint Communications' and CenturyLink's separate efforts to change the Commission's initial determination that the challenged Census Blocks currently receive qualifying unsubsidized Broadband Internet and fixed telephone voice services.

2) The Commission established four criteria to examine in determining whether an area is adequately served by an unsubsidized carrier: 1) the provider must actually be offering voice and broadband service in the census block; 2) the provider must have voice and broadband-capable physical assets in or adjacent to the census block at issue; 3) the provider must either have customers in that Census Block or previously had customers in the Census Block and be willing and able to provision service to a customer in the Census Block, without the expenditure of extraordinary resources, within 10 or fewer days or must otherwise demonstrate that its service offering in the area is real and not merely a temporary or hypothetical service offering designed to defeat a request for support; and 4) the provider's Broadband Internet and fixed telephone voice service rates must be "reasonably comparable" to services and rates offered in urban areas. *See Report and Order*, DA 14-1569, ¶ 2 (WCB released October 29, 2014); *Public Notice*, DA 14-864, ¶ 9 (WCB released June 20, 2014); *Report and Order*, DA 13-1113, ¶¶ 3, 16 & n. 38 (WCB released May 16, 2013). As discussed more fully below, Jade's services meet these requirements.

1. Jade Offers Unsubsidized, Unlimited Broadband Internet and Voice Services in the Subject Census Blocks

3) Jade offers and provides unsubsidized, unlimited Broadband Internet and fixed telephone voice service to over 1800 current subscribers, including approximately 300 who subscribed the Jade's fixed telephone voice service. These customers reside in the four Colorado Counties served by Jade: Costilla, Alamosa, Rio Grande, and Conejos. Exhibit 1 hereto is a Transmission Site/Service Area Map prepared by Jade's mapping consultant upon which have been placed the

challenged Census Blocks, Jade's network Access Point transmitter sites, and Jade's service area to show the relationship of their physical locations. The Transmission Site/Service Area Map references Jade's network Access Point transmitter sites via letter designation. Exhibit 1 page 2 of 2 is a key associating the letter designations shown on the transmitter site map to the physical location of Jade's transmission sites. Each transmission site generates a 15 mile service area and the Transmission Site/Service Area Map shows the composite 15 mile cloud service contour which is generated by Jade's network Access Point transmission sites.¹

4) Jade advertizes its unlimited Broadband Internet and fixed telephone voice services throughout the Census Block areas in several ways including its website found at: <http://www.gojade.org>. Copies of Jade's Broadband Internet service and Digital Phone service applications are attached hereto as Exhibit 2, at page 1 of 9 (Broadband Internet) and at page 4 of 9 (fixed telephone voice service). To view Jade's various Broadband Internet service and rate plans online go to <http://www.gojade.org> and click on the "Fill Out Application For Service" button: <http://www.emailmeform.com/builder/form/8Q9Zlac5tbi4w>. To view Jade's fixed telephone voice service offering and rate plans click on the "Digital Phone PDF" button: <http://www.gojade.org/documents/Application%20for%20Digital%20Phone%20Service.pdf>.

5) Jade offers an interactive online service availability tool through which potential customers can insert their address and other contact information to ascertain whether Jade's services are available at a given location. See http://www.gojade.org/qualify/qualify_template.html;² see also Exhibit 3, screen shots of Jade's interactive service availability tool. To use the interactive service availability tool for purposes of this proceeding: 1) insert "dummy" address/contact

¹ In the field the height and orientation of a subscriber's receive/transmit equipment is adjustable and service can extend beyond 15 miles.

² From Jade's home page at www.gojade.org click the "Check for Service" link.

information into the tool consisting of “Alan Wehe” for the name and Jade’s office address and phone number as the service address (129 Santa Fe, Alamosa, CO 81101, 719-589-5140); 2) click the “Map Me!” button. Jade’s service availability tool will generate a pushpin at the address location and will show which of Jade’s towers are capable of providing service at that location. A user of Jade’s service availability tool is able to zoom in and out to get a smaller or bigger view of Jade’s service area. A neat feature of Jade’s service availability tool is a function which enables the prospective customer to click/hold the pushpin and drag it to other areas to see the extent of Jade’s service area.³

2. Jade Has Physical Assets Serving the Challenged Census Blocks

6) The Transmission Site/Service Area Map, Exhibit 1, shows Jade’s wireless transmission system in relation to the challenged Census Blocks. Jade’s service contours cover the challenged Census Blocks and Jade satisfies the requirement that it have “physical assets in or adjacent to the census block.” *Public Notice*, DA 14-864, ¶ 9 & n. 17 (WCB released June 20, 2014). Jade provides its Broadband Internet and fixed voice telephone services utilizing unlicensed Cambium Network wireless assets as deployed and as depicted on the map shown at Exhibit 1. Exhibit 4 hereto are the spec sheets for the Cambium Network Access Point and Subscriber Equipment used in Jade’s network. Through these wireless facilities Jade is capable of serving the populated areas throughout Costilla, Alamosa, Rio Grande, and Conejos Counties located in Colorado. Moreover, Jade is capable of serving the subject challenged Census Blocks and as shown in Exhibit 1, Jade is providing service to the challenged Census Blocks.⁴

³ Jade is currently in the environmental review/air study phase of a project to add two additional transmitter locations in the Monte Vista, CO area. *See* FAA studies 2014-ANM-2667-OE (pending) & 2014-ANM-2269-OE (approved).

⁴ The Transmission Site/Service Area Map, Exhibit 1 hereto, shows partial coverage of several Census Blocks in the Northeast area of Alamosa County. However, “[a]ny partially served

3. Jade Has Many Customers In the Area Which Surrounds the Challenged Census Blocks

7) Jade currently provides the Broadband Internet and/or fixed telephone voice services described above to approximately 1800 subscribers, a number which includes approximately 300 fixed telephone voice subscribers, in the four county area shown in Jade's Transmission Site service Area Map found at Exhibit 1 hereto. Jade has been reporting provision of Broadband Internet and fixed telephone voice service on FCC Form 477 in the area since 2008, if not earlier. *See* Exhibit 6 hereto, a copy of pertinent portions of the Commission's list of 2008 FCC Form 477 Local Exchange Telephone or Interconnected VoIP Filers as of December 31, 2008 (Part I for Broadband Internet service and Part II for fixed telephone voice service) which Jade obtained from the Commission's website at <http://transition.fcc.gov/wcb/iatd/comp.html>. Jade's provision of Broadband Internet service and fixed telephone voice service predates by several years the Commission's 2011 changes to, and implementation of, the reformation of USF fund distribution. Jade's provision of Broadband Internet service and fixed telephone voice service in the relevant area is neither temporary nor hypothetical. *Report and Order*, DA 13-1113, ¶ 16 & n. 38 (WCB released May 16, 2013). Jade has been providing actual service in the subject area for years. Accordingly, Jade satisfies the requirement that it is an actual provider of Broadband Internet and fixed telephone voice service.^{5 6}

census block will be treated as served.” *Report and Order*, DA 13-1113, ¶ 22 (WCB released May 16, 2013). Exhibit 5 hereto provides a close up view of the partial coverage area. One very small Census Block in that area, 080039600002082, falls just outside of the service cloud shown in Exhibit 1. However, as noted above, adjustments to subscriber antenna mounting will extend Jade's service and it is very likely that Jade could provide service to this Census Block within 10 or fewer days after request for service is made without extraordinary financial expenditure.

⁵ Jade routinely initiates service within seven days after receiving a service request.

⁶ Redacted customer records would be provided promptly upon request. With extremely limited exception discussed in footnote 8 below, neither challenger made any allegation which is specific to the provision Jade's services, not even a reference to Jade's website. The challenges

8) Regarding whether an area is served the Commission determined “that it would be appropriate to exclude any area served by an unsubsidized competitor and we delegate to the Wireline Competition Bureau the task of implementing the specific requirements of this rule.” *Report and Order and Further Notice of Proposed Rulemaking*, FCC 11-161 ¶ 170 (FCC released November 18, 2011). The WCB was concerned that areas eligible for funding and legitimate requests for USF funding might be obstructed by temporary or hypothetical claims of service made by unsubsidized service entities. Accordingly, the WCB adopted a best evidence rule because the best way to deter obstructive challenges would be actual service by the unsubsidized carrier within the challenged Census Block. *Report and Order*, DA 13-1113, ¶ 16 & n. 38 (WCB released May 16, 2013).⁷ However, other forms of service evidence submitted by respondents were not excluded. It is respectfully submitted that Jade has provided “concrete and verifiable evidence supporting their claims that the challenge should not be granted.” *Id.*, ¶ 17.

9) Moreover, it cannot go unnoticed that there are literally thousands and thousands of Census Blocks in the four county area served by Jade. It would just be random chance of

consist of general allegations based upon inferences gleaned from industry information and reports. Rather than produce redacted customer records in response to non-specific allegations, and run the risk of an inadvertent CPNI violation, Jade’s summary testimony regarding its records is an adequate rebuttal, especially where the status quo is the Commission’s finding that the challenged Census Blocks are adequately served.

⁷ The WCB adopted the “best evidence” rule in the context of an unsubsidized carrier submitting a challenge regarding a Commission determination that an area is unserved, and even in that context the Commission will consider other “forms of evidence.” *Report and Order*, DA 13-1113, ¶ 16 (WCB released May 16, 2013). Instantly, the Commission has determined that the areas at issue are served by unsubsidized carriers and Jade is responding to challenges in defense of the Commission’s determinations. When a carrier is defending the Commission’s determination that an area is served, there is a much lower probability that the unsubsidized carrier is “gaming the system” since the unsubsidized carrier is merely offering information which corroborates other information already possessed by the Commission. To the extent that rule waiver is required on this point, Jade respectfully submits that it had submitted adequate information regarding the existence of its facilities and services in the subject area to warrant waiver.

astronomical proportions for Jade to have customers in the approximately 50 Census Blocks pointed to by the challengers as being unserved. Indeed, because the challengers' challenges are so extremely limited in the context of the large number of the Census Blocks which exists in Jade's service area, the challengers implicitly concede that the large number of surrounding Census Blocks are served by unsubsidized carriers. Given the fact that even the challengers concede that qualified, unsubsidized services are available nearly universally within Jade's service area, and given the fact that the challengers failed to provide specific factual allegations regarding service unavailability, but rather rely upon data interpretation, the reasonable inference is that the challengers' methodologies are substantially flawed.

4. Jade's Unlimited Broadband Internet and Fixed Telephone Voice Services Are Reasonably Comparable to Offerings In Urban Areas

10) Jade's Broadband Internet Service: The Commission has established that a minimum reasonably comparable urban Broadband Internet speed would be 4 Mbps/1 Mbps. *Report and Order*, DA 13-1113, ¶ 6 (WCB released May 16, 2013); *Report and Order*, DA 14-1569, ¶ 10 (WCB released October 29, 2014). Jade's Broadband Internet service plans offer a variety of connection speeds and each of the plans provides for unlimited usage. For example, Jade's slowest Broadband Internet service offering provides an unlimited 5 Mbps/1 Mbps Broadband Internet service for \$39.99. See Jade's Broadband Internet service request application at: <http://www.emailmeform.com/builder/form/8Q9Zlac5tbi4w>; see also Exhibit 2 hereto, page 2 of 9 (Jade's Broadband Internet service application form). Jade's slowest service offering at 5 Mbps/1 Mbps is somewhat faster than the Commission's 4 Mbps/1 Mbps minimal standard.

11) The Commission has determined that for 2014 a reasonably comparable urban rate for the Commission's minimal level unlimited 4 Mbps/1 Mbps Broadband Internet service, slightly slower than Jade's unlimited lowest tier 5 Mbps/1 Mbps Broadband Internet service, is \$74.31.

Report and Order, DA 14-1569, ¶ 10 (WCB released October 29, 2014). Jade's unsubsidized, unlimited Broadband Internet service is offered at prices beginning at \$39.99 for 5 Mbps/1 Mbps. *See* Exhibit 2, page 2 of 9 (Jade's Broadband Internet service/rate plan). Jade's unsubsidized price for Jade's minimal unlimited service level offering, a minimal service which is faster than the Commission's minimal speed standard, is priced at nearly one-half of the Commission's recently established reasonably comparable urban rate. Jade's peak time "round trip" latency is under 70 ms and Jade's customers usually experience much lower latencies, well under the Commission's 100 ms benchmark. *Public Notice*, DA 14-942, at 2 (WCB released June 30, 2014). Moreover, the Commission determined that Broadband Internet service "providers that meet the speed requirement generally meet our other performance criteria. For administrative ease, therefore, we conclude that it is reasonable to presume that providers that provide broadband of the required speed also meet the non-speed broadband criteria, with that presumption subject to rebuttal in particular instances." *Report and Order*, DA 13-1113, ¶ 7 (WCB released May 16, 2013). With limited exception, neither challenger directly challenges any non-speed aspect of Jade's Broadband Internet service with specific evidence.⁸

12) Jade's Fixed Telephone Voice Service: Jade offers fixed telephone voice service through its wireless physical assets discussed previously in this Statement. *See*

⁸ As discussed above, the challenges consist almost entirely of general allegations based upon inferences gleaned from industry information and reports. CenturyLink's Exhibit 11 tries to argue, we think, that Jade's voice service is not a qualified service because Jade's fixed telephone voice service application form indicates that 911 service would be unavailable in the event of equipment or power supply failure. However, that is no different from a landline 911 service being unavailable if the CPE becomes defective, or if a line goes down, or if service is disconnected, or if dial tone is lost. Moreover, CenturyLink's 911 argument concedes the existence of Jade's unsubsidized fixed telephone voice service. CenturyLink's filing was voluminous, poorly indexed, and contains numerous attachments visible in the ECFS totaling hundreds and hundreds of pages, precious few of which had descriptive names. We could find no other challenge allegation which seems directed specifically toward Jade. Please let us know if we missed an allegation specific to Jade which should be addressed and we will promptly supplement this Statement.

<http://www.gojade.org/documents/Application%20for%20Digital%20Phone%20Service.pdf>;

see also Exhibit 2 hereto, at page 4 of 9. The Commission has recently determined that the reasonably comparable urban rate for fixed telephone voice service is \$37/month. *Report and Order*, DA 14-1569, ¶ 13 (WCB released October 29, 2014). Jade’s unsubsidized stand-alone fixed telephone voice service is a qualified “reasonably comparable” service because it is priced at \$24.95/month which is well below the Commission’s established \$37/month “reasonably comparable” standard.⁹

WHEREFORE, in view of the information presented herein, it is respectfully submitted that the Commission should find that Jade offers unsubsidized, reasonably comparable Broadband Internet and fixed telephone voice services in the challenged Census Blocks, that the challenged Census Blocks should continue to be classified as adequately served by an unsubsidized service provider, and that the challenged Census Blocks continue to be found ineligible for USF funding.

Respectfully submitted,
JADE COMMUNICATIONS, LLC

Hill & Welch
1025 Connecticut, N.W. #1000
Washington, D.C. 20036
(202) 857-1470
(301) 622-2864 (FAX)
welchlaw@earthlink.net
November 10, 2014

/s/ Timothy E. Welch
Its Attorney

⁹ A discounted fixed telephone voice service price of \$19.99 is available if Jade’s Broadband Internet service is also purchased.

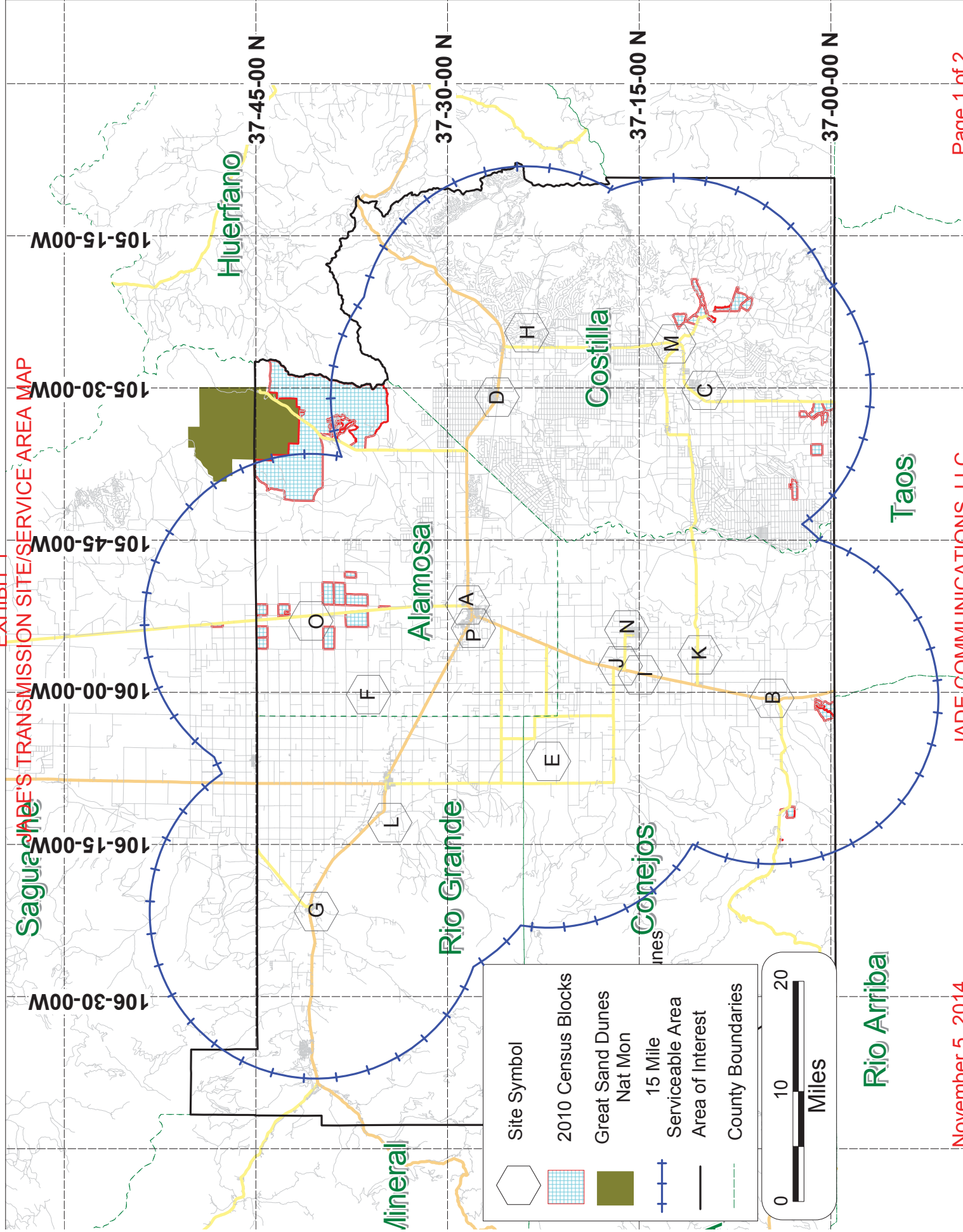


EXHIBIT 1
JADE'S TRANSMISSION SITE/SERVICE AREA MAP

Map Tower Reference Identifier	Location Name	Latitude	Longitude	FCC ASR #
A	Alamosa 129 Santa Fe	N 37-28-26.5	W 105-51-21.8	1057226
B	Antonito 5318 County Rd 14, antonito Co 8112C	N 37-04-12.8	W 106-0-10.3	1235597
C	AT&T tower South San Luis 1124 Highway 159 San Luis Co 81152	N 37-9-55.0	W 105-30-12.0	1024241
D	Blanca, 506 Smith Blanca Co 81123	N 37-26-11.8	W 105-30-59.3	1024307
E	Capulin 25758 county road 35 La Jara, co 8114C	N 37-22-2.4	W 106-6-49.0	1219186
F	County Line AT&T (Monte Vista & Alamosa)	N 37 -36-11.1	W 106-00-11.4	
G	Del Norte - top D mtn	N 37-40-16.5	W 106-21-34.74	
H	Fort Garland 2462 Lita Kean road, Fort Garland Co 81133	N 37-23-49.0	W 105-24-29.0	1024308
I	La Jara - High School 17890 U.S. 285, La Jara, CO 8114C	N 37-14-54.8	W 105-58-15.3	
J	La Jara -Elementary	N 37-16-28.6	W 105-57-21.6	
K	Manassa	N 37-10-15.1	W 105-56-16.3	
L	Monte Vista - Lariat	N 37-34-30.7	W 106-12-48.9	1281445
M	San Luis - 14473 Amigo Road San Luis Co	N 37-12-18.0	W 105-25-37.0	1024309
N	Sanford	N 37-15-58.8	W 105-53-49.0	1237700
O	Sangre De Cristo school 8751 Lane 7 North • Mosca, CO 8114C	N 37-40-42.01	W 105-52-55.78	1280319
P	Alamoasa WT	N 37-27-58.6	W 105-53-38.6	

Online Application for Services

Please Fill out and Submit

Social Security Number and Drivers License Number are required to start service.

Name *

Mailing Address *

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country / Region

Physical Address (If Different)

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country / Region

Driving Directions (from Alamosa) *

Social Security Number *

Required for Credit Check

Drivers License *

Drivers Licence State *

November 5, 2014

JADE COMMUNICATIONS, LLC

Page 1 of 9

Please select

Date of Birth * / /

MM DD YYYY

Mother's Maiden Name ***Home Phone Number *** - -

####

Alternate Phone Number - -

####

Alternate Person Phone Number * - -

####

Please provide a phone number of another person

Work Phone Number - -

####

Email ***Place of Employment *****Referred By:****Please Choose your package ***

- ☐ 5Mbps Down 1Mbps Up \$39.99 with \$50.00 Install fee
- ☐ 10Mbps Down 1Mbps Up \$49.99 with \$50.00 Install fee
- ☐ 20Mbps Down 2Mbps Up \$59.99 with \$75.00 Install fee
- ☐ 30Mbps Down 3Mbps Up \$69.99 with \$100.00 Install fee

Jade's Broadband Internet and Voice Service Applications

☐ Exede Service☐ Digital Phone - Includes caller ID/Voice Mail/Unlimited Continental Long Distance**Additional Features**☐ Rental Router \$4.99/month☐ SecureIT AntiVirus \$5.95/month with \$3.95 Install fee☐ Additional Email \$5.00/month**Installation On** / / : AM ▼

MM DD YYYY HH MM AM/PM

Installation date is not guaranteed

Terms of Service *

☐ I agree to pay all charges within 10 days of issuance and to pay all reasonable costs of any collection agency (up to 50% of outstanding bill), attorney, court or other miscellaneous fees used to collect past due amounts.

*

☐ I agree to a Credit Check which is required for service

*


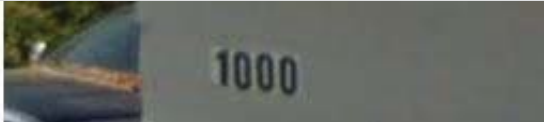
☐ I agree to pay all late charges if payment is not received by the 10th of the month. And any service fees due to returned checks and credit cards etc.

*

☐ I agree to pay a \$95.00 Equipment Retrieval Fee, if equipment is not returned after 10 days of disconnect.

*

☐ I swear, under penalty of perjury, that all the above information is correct and accurate





BIG CITY TECHNOLOGY. SMALL TOWN VALUES.



129 Santa Fe
 Alamosa, CO 81101
 tel: (719) 589-5140, (719) 206-8121
 fax: (719) 379-5133, (719) 206-8133
 email: directv@GoJade.Org, btc@GoJade.Org

Digital Phone with Canopy Service: \$19.99 / Month

Application for Digital Phone Service \$24.95 / Month for stand-alone phone

Name: _____ Email: _____ AR# _____

Mailing Address: _____ City: _____ State: _____ Zip: _____

911 Address: _____ City: _____ State: _____ Zip: _____

Driving directions: _____

Contact Telephone#:

Cell #

Work #

*****We must have a different contact # other than the # we are programming!!*****

Social Security #: _____ Drivers License#: _____ State: _____

CALLING FEATURE SELECTION INFORMATION:**FEATURES:** The following calling features are automatically added to your telephone line **FREE** of charge. Usage instructions are

Call Waiting 2) Caller ID 3) Call Forwarding 4) Conference Calling 5) Speed Dialing 6) Caller ID Blocking
 7) Caller ID Release 8) Voice Mail Gold 9) Call Forward Busy 10) Call Forward Don't Answer

Unlimited Long Distance in the Continental US (excluding directory assistance)**Do you want to port your Qwest phone #? (yes, no) What is the #?** _____ **Copy of Bill:** _____**Equipment Required:**Router ☐ Purchase for \$110.00 Rent \$4.99 per month ATA (to be returned upon disconnect or \$110.00 Charge)UPS ☐ Purchase for \$113.00**Listing Options:**

Yes No Please list name in the Telephone Directory as follows:

If No, a \$0.50 per month charge applies.

Yes No Please list this name with **Directory Assistance**. If No, a \$0.50 per month charge applies. If you select NO your number will not be released for Caller ID purposes and "Private" will show on the called parties' phone. If you select YES here, your number will be provided to Caller ID systems. Some subscribers will have their incoming calls blocked to "Private" calls.

Credit Card Information

We can accept your monthly payment by credit card. Please provide the following information.

Name on Credit Card: _____

Credit Card Type :(circle one) Master Card Visa Discover

Credit Card #: _____ Exp Date: _____

Date for Monthly Reoccurring Payment (Choose a date between the 3rd & 10th): _____

By completion of this application or the use of the services provided by Jade Communications the customer agree to pay all charges within 10 days of issuance. If collection or legal action occurs the applicant agrees to pay the outstanding charges plus 50% of the outstanding bill for collection plus all reasonable attorney fees and court costs used to collect the amount.

Signature _____ Date: _____



WILDBLUE

November 5, 2014

JADE COMMUNICATIONS, LLC
 WC Docket No. 14-93 -- DA 14-1397



Page 4 of 9

EXHIBIT 2

THIS PAGE FOR GoJade.org USE ONLY

(Internal Use)

Application _____

Copy of Qwest bill _____(for porting #)

Placed in AP(VoiceMail) _____

Placed in AP (CNAM) _____

Placed in Syniverse (LIDB) _____

Placed in OSC _____

Date Installed: _____

Notes: _____

Equipment Used: Router _____

ATA ☐ _____

What type of internet service do you have?

How many computers do you have with internet access?

Do you have a router?

DPS Access:

IP Address:(for internet access)_____

Phone # _____

GWL_____

UID_____

Password:_____

Hours on job: _____

Date Completed: _____ Person

Doing Work: _____

911 completed_____

Date completed_____

Person doing work_____

Intrado- 911_____

EXHIBIT 2
Jade's Broadband Internet and Voice Service Applications



129 Santa Fe
Alamosa, CO 81101
tel: (719) 589-5140, (719) 206-8121
fax: (719) 379-5133, (719) 206-8133
email: directv@GoJade.Org, hbc@GoJade.Org

Important Calling Information including 911

We are pleased to offer you digital phone service and want to take this opportunity to advise you of certain calling features and 911 capabilities. Your safety and that of your family and friends are important to us at Jade Communications. While we hope that the occasion never arises where our Enhanced 911 feature is needed, in case it is, we want to remind you of both its capabilities and any limitations associated with its use.

The Federal Communications Commission (FCC) has asked the industry to make sure you understand this important information about digital phone service. Jade Communications Digital Phone will not function (regular or 911 calls) if Jade's equipment fails or is relocated from the current premises or tampered by the customer. Additionally, regular calls and 911 calls will not function if the Jade equipment is interrupted or not functioning for any reason or if the customer's power is non-functional. This may include, but is not limited to, power outages lasting beyond the current backup provided by Jade Communications or network outages just like traditional telephone service.

The service agreement is violated if the customer's equipment is moved from the physical location where it was originally installed. This will cause 911 communications to be misdirected to an incorrect emergency services responder.

The customer is totally responsible for all power at the customer's location. Since power outages do occur, Jade Communications recommends that an Uninterrupted Power Supply, and surge arrestor be purchased, installed and maintained on the high speed internet circuit which is connected to the ATA and telephone. All wires from other telephone companies connected at the interface box located outside must be disconnected.

We hope this information will assist you in using your Digital Phone Service to its fullest potential. Please take a minute to acknowledge your understanding and receipt of this information by signing below.

Thank you for your continued business,

Jade Communications, LLC

I understand the above information about my Digital Phone Service.

Signature: _____ Date _____

Print Name: _____

911 Address: _____

Phone Number: _____



BIG CITY TECHNOLOGY. SMALL TOWN VALUES.



129 Santa Fe
 Alamosa, CO 81101
 tel: (719) 589-5140, (719) 206-8121
 fax: (719) 379-5133, (719) 206-8133
 email: directv@GoJade.Org, btc@GoJade.Org

CUSTOMER COPY

- **Customer Name:** _____
- **Customer Address:** _____
- **City, State, Zip:** _____
- **Telephone Number:** _____
- **Phone Book Listing:** _____

Important Calling Information including 911

We are pleased to offer you digital phone service and want to take this opportunity to advise you of certain calling features and 911 capabilities. Your safety and that of your family and friends are important to us at Jade Communications. While we hope that the occasion never arises where our Enhanced 911 feature is needed, in case it is, we want to remind you of both its capabilities and any limitations associated with its use.

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The service agreement is violated if the customer's equipment is moved from the physical location where it was originally installed. This will cause 911 communications to be misdirected to an incorrect emergency services responder.

The customer is totally responsible for all power at the customer's location. Since power outages do occur, Jade Communications recommends that an Uninterrupted Power Supply, and surge arrester be purchased, installed and maintained on the high speed internet circuit which is connected to the ATA and telephone. All wires from other telephone companies connected at the interface box located outside must be disconnected.

We hope this information will assist you in using your Digital Phone Service to its fullest potential.

Thank you for your continued business,

Jade Communications, LLC

EXHIBIT 2
Jade's Broadband Internet and Voice Service Applications

FEATURE DIRECTIONS:

CALL FORWARDING: Automatically forward your calls to another location when you plan to be away from your telephone for an extended period of time or if you do not wish to receive any calls. Note that you, not the originating party, are billed or any toll charges when the forward-to-number is outside your local area.

Step	Description
1	Dial *72 and wait 4 seconds for a dial tone.
2	Dial the forward-to-number. When the station to which calls are to be forwarded answers, the feature is activated. If the station does not answer or if it is busy, you may hang up and repeat the previous steps. If this is done within 2 minutes of the original attempt, you will hear two beeps, indicating that the call forwarding feature is now in effect.
3	To deactivate call forwarding and restore normal service, dial *73 and wait 4 seconds for 2 bursts of dial tone, then hang up. All subscribers may avoid the time out period by dialing an octothorp (#).

THREE WAY CALLING (3 PARTY CONFERENCE): Three way calling allows you to have two other parties on the line with you simultaneously.

Step	Description
1	Depress and release the hook-switch to put the original party on hold. Listen for three bursts of a dial tone followed by a steady dial tone.
2	Dial the number of the third party. When this party answers, you can talk privately. When you are ready to establish the conference connection, depress and release the hook-switch.
3	When the originating party hangs up, all parties are disconnected and the call is completed.

SPEED DIALING: Program your phone to dial frequently called numbers with fewer keystrokes. Up to 8 numbers may be programmed.

Step	Description
1	Dial *74 and wait 4 seconds for a dial tone.
2	Dial a code number (use a number between 2 and 9 inclusive).
3	Dial the directory number to be stored with the corresponding code. Wait 4 seconds for 2 bursts of dial tone, then hang up.
4	Repeat steps 1 - 3 for each number to be stored, using a different code each time. You may use these steps to replace previously stored numbers.
5	To use speed dialing, dial the selected code number and wait 4 seconds for the call to be placed.

CALL WAITING: Call waiting allows you to be notified of incoming calls while you are engaged in a conversation. Using the steps below, you can answer the incoming call without terminating your existing conversation.

Step	Description
1	An alert tone gives notification of an incoming call. To answer the call, depress and release the hook-switch. This puts the original party on hold, and you are then connected to the calling party.
2	To alternate between calling parties, depress and release the hook-switch.
3	If you wish to end the original conversation when you hear the call waiting tone, simply hang up. Your call then rings and you are connected to the calling party.

CALLER ID RELEASE: If you choose not to be listed in Directory Assistance your phone listing for Caller ID systems will be listed as "Private" instead of releasing your phone number. Some people have their phones blocked to accept calls from "Private" callers. If you are listed as "Private" and desire to have your number released for one call, please follow the directions below prior to placing the call.

Step	Description
1	Dial *82 to cause your number to appear on the calling party's telephone or Caller ID system.

CALLER ID BLOCKING: If you choose to be listed in Directory Assistance your phone number will be provided to Caller ID systems. Caller ID Blocking allows you to prevent your number from being displayed on other Caller ID telephones on a per-call basis. In lieu of your number being displayed, the word "Private" will appear instead. Please follow the directions below to block your number from being displayed prior to making your call.

Step	Description
1	Dial *67 to cause a "Private" to be displayed on the calling party's telephone.

SCREEN SHOTS OF JADE'S SERVICE AVAILABILITY TOOL



See if We Can Provide Service to You!

Please fill out the form with the physical address where you want service to be provided.

first *

 last *

 street address (NOT a PO BOX) *

 suite/apt/number

 city *

 state/province *

 zip *

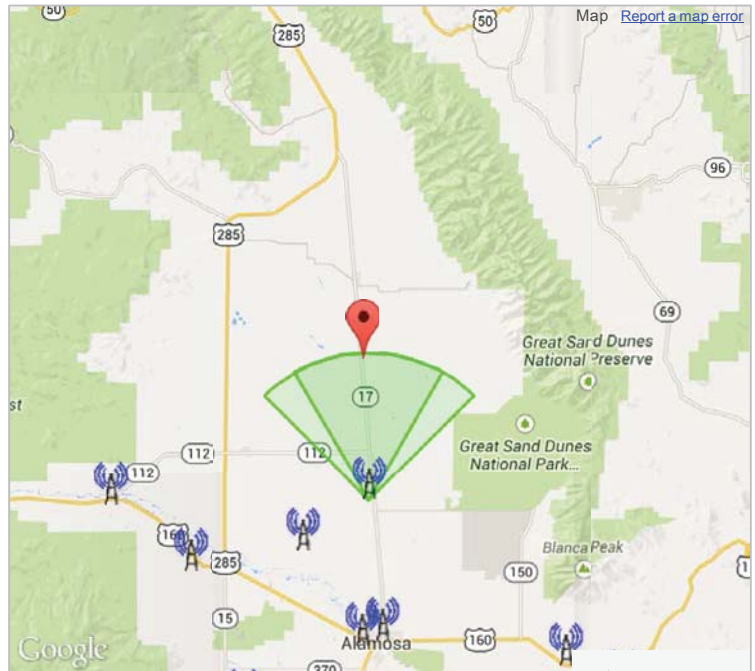
 country *

 phone *

 email *

 latitude

 longitude



If the marker for your location is not in the correct place, drag the marker to where you want service. The more accurate location we have from the map, the better chance we have to tell you if we can provide service to you.

SCREEN SHOTS OF JADE'S SERVICE AVAILABILITY TOOL



See if We Can Provide Service to You!

Please fill out the form with the physical address where you want service to be provided.

first *

 last *

 street address (NOT a PO BOX) *

 suite/apt/number

 city *

 state/province *

 zip *

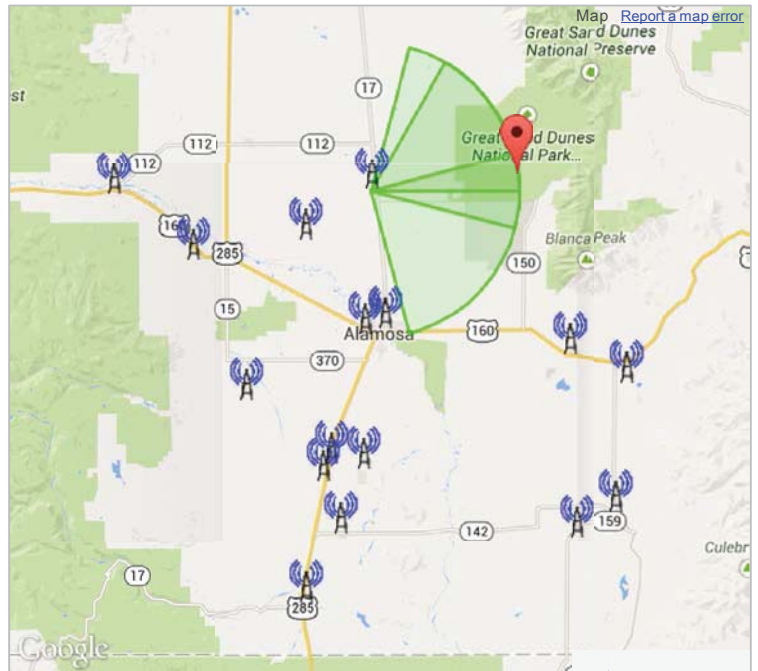
 country *

 phone *

 email *

 latitude

 longitude



If the marker for your location is not in the correct place, drag the marker to where you want service. The more accurate location we have from the map, the better chance we have to tell you if we can provide service to you.

SCREEN SHOTS OF JADE'S SERVICE AVAILABILITY TOOL



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 suite/apt/number

 city *

 state/province *

 zip *

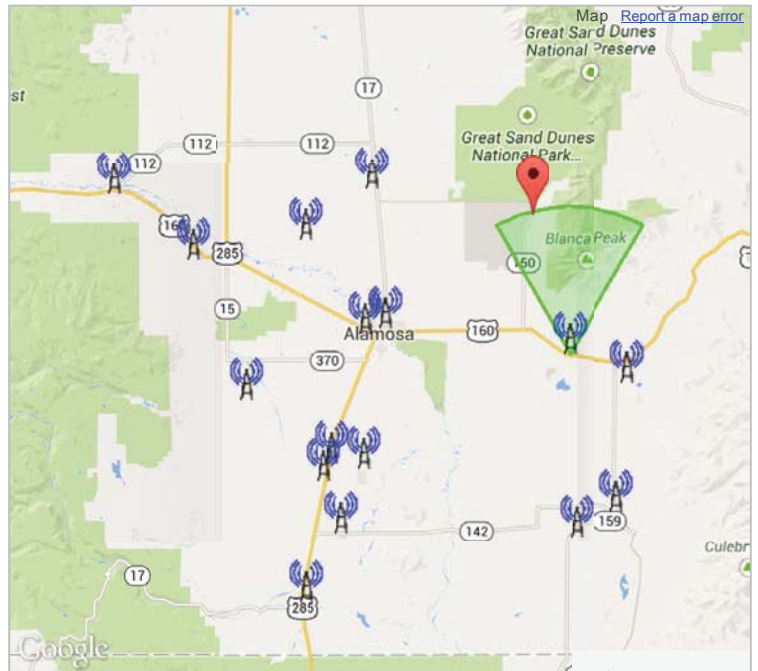
 country *

 phone *

 email *

 latitude

 longitude



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SCREEN SHOTS OF JADE'S SERVICE AVAILABILITY TOOL



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 city *

 state/province *

 zip *

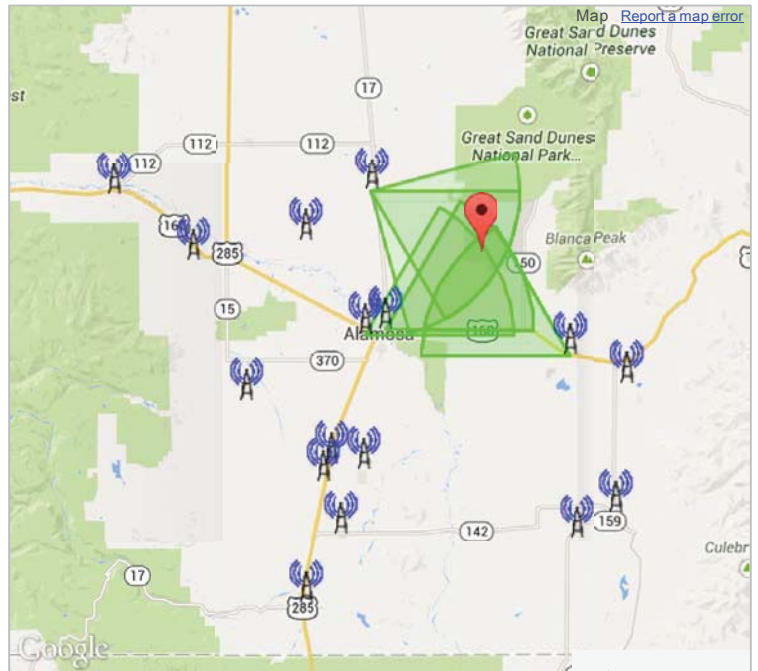
 country *

 phone *

 email *

 latitude

 longitude



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SCREEN SHOTS OF JADE'S SERVICE AVAILABILITY TOOL



See if We Can Provide Service to You!

Please fill out the form with the physical address where you want service to be provided.

first *

 last *

 street address (NOT a PO BOX) *

 suite/apt/number

 city *

 state/province *

 zip *

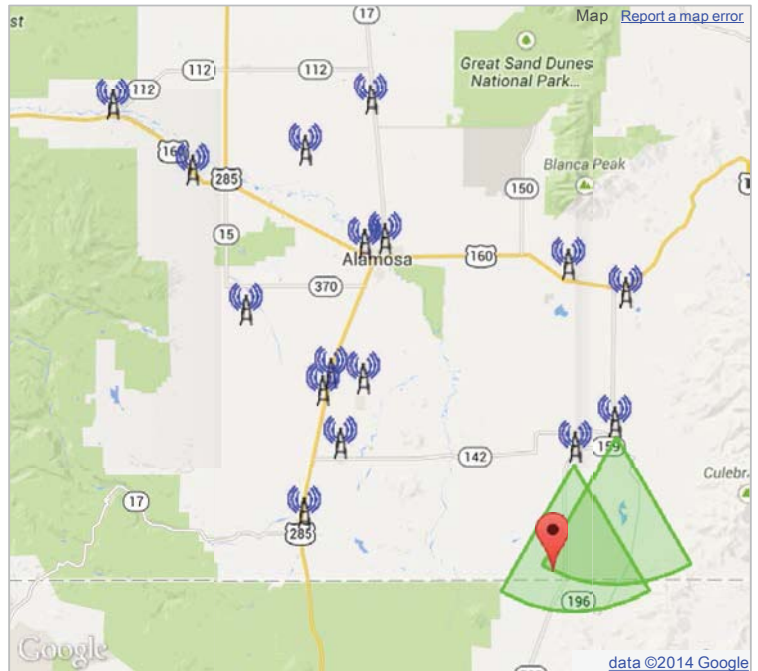
 country *

 phone *

 email *

 latitude

 longitude



If the marker for your location is not in the correct place, drag the marker to where you want service. The more accurate location we have from the map, the better chance we have to tell you if we can provide service to you.

SCREEN SHOTS OF JADE'S SERVICE AVAILABILITY TOOL



See if We Can Provide Service to You!

Please fill out the form with the physical address where you want service to be provided.

first *

 last *

 street address (NOT a PO BOX) *

 suite/apt/number

 city *

 state/province *

 zip *

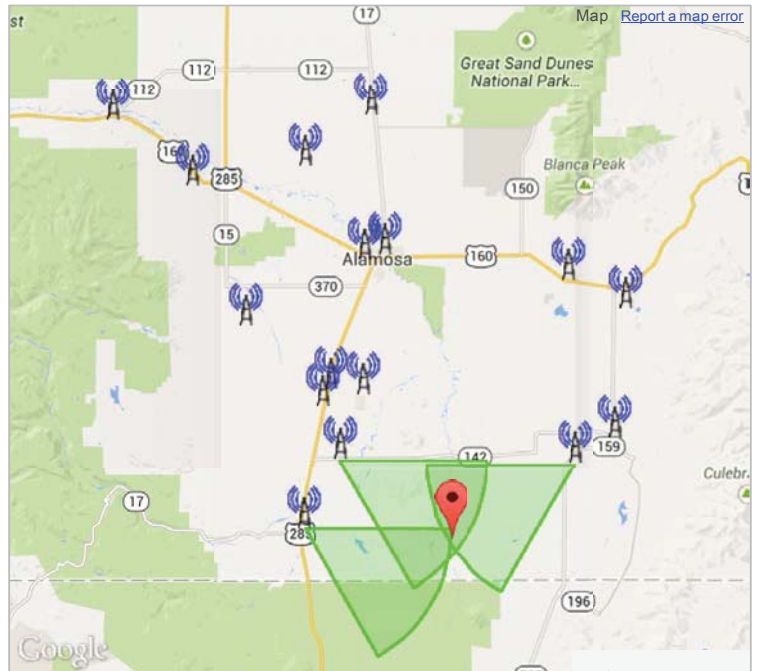
 country *

 phone *

 email *

 latitude

 longitude



If the marker for your location is not in the correct place, drag the marker to where you want service. The more accurate location we have from the map, the better chance we have to tell you if we can provide service to you.

PMP 450 Access Point

VERTICAL MARKETS AND SOLUTIONS

WIRELESS SERVICE PROVIDERS (WISPs)

- Rural connectivity
- Municipal connectivity
- Remote office connectivity
- Primary or redundant connectivity

GOVERNMENT PUBLIC SAFETY SECTOR

- Data Connectivity and Video Surveillance for Public Safety
- Disaster Recovery for Public Service
- Data Network for Public Works

ENTERPRISES

- Video surveillance backhaul
- Device/site monitoring
- LAN extension
- Leased line replacement



PMP 450 Access Point

Introduction

The Cambium Networks PMP 450 is our industry-leading wireless access network platform. Our solution is ideal for industry verticals such as WISPs (Wireless Service Providers), Enterprises and the Government Public Safety Sector. Designed for fixed outdoor applications, the PMP 450 platform is optimized for rate, reach, reliability and throughput. It features the most resilient and effective set of wireless broadband technologies in the marketplace.

Now available in most popular global bands, 2.4, 3.5, 3.65 and 5 GHz, the Cambium Networks Point-to-Multipoint (PMP) 450 Access Point (AP) delivers a consistent and exceptionally high throughput - more than 125 Mbps per sector and more than 1 Gbps per tower.

From the innovative GPS Synchronization options to interoperability with existing portfolio modules, the PMP 450 provides flexible deployment options that make it an excellent fit for high capacity, high reliability networks.

Main Differentiators

» MAXIMIZED SPECTRAL EFFICIENCY IN DENSE SERVICES AREAS

is enabled by our innovative GPS Sync Technology in combination with long range and high density coverage. This allows for configuration of more subscribers utilizing fewer access points, while preserving quality of service in spectrum-constrained environments. By lowering installation costs and maintenance, GPS Sync reduces operating expenses and improves growth and profitability.

» **OPTIMAL TRIPLE PLAY BACKHAUL** empowered by effective Quality of Service (QoS) management allows providers to confidently offer triple play services – VoIP (Voice over IP), video and data. Providing customers with excellent service ensures their continued loyalty and transforms them into advocates, helping WISPs and enterprises expand their business.

» **CARRIER-GRADE RELIABLE HARDWARE** by Cambium Networks is constructed from high quality industrial components; it is outdoor-rated and rigorously tested to satisfy the most difficult environmental conditions. With 40-year MTBF, our equipment standards are unsurpassed in industries requiring fixed wireless broadband.

Powerful Features

The Cambium Networks PMP 450 platform is designed for growth. It allows service providers to efficiently and cost-effectively offer popular multi-media services that maximize their revenue - high-speed data and cloud access, video on demand, reliable fixed voice and VoIP. The PMP 450 solution provides reliable coverage across large service areas in urban, suburban, rural and remote locations.

2x2 MIMO-OFDM technology allows dual stream operation for most channel conditions, guaranteeing successful deployment of wireless networks in challenging environments.

Low latency of 3 - 5 ms effectively supports video and VoIP services. **Flexible channel width** (5, 10 and 20 MHz) allows users to select the most effective channel width for the current network environment. **256-QAM** modulation rate offers the unique ability to use the PMP 450 platform for services requiring fast and reliable transmission. **System performance** is ensured by vigorous testing with a compatible set of radios, guaranteeing predictable link budget results. Cambium Networks specifications are consistent with real life conditions.

PRODUCT												
MODEL NUMBERS	C054045A001A, C054045A002A, C054045A003A (5 GHz) C024045A001A, C024045A003A (2.4 GHz) C035045A001A, C035045A003A (3.3 – 3.6 GHz) C036045A001A, C036045A003A (3.55 – 3.8 GHz)											
SPECTRUM												
CHANNEL SPACING	CONFIGURABLE ON 2.5 MHz INCREMENTS, SELECTABLE TO 50 KHz AT 3 GHz FREQUENCY											
FREQUENCY RANGE	5470 - 5875 MHz 2400 - 2483.5 MHz							3300 – 3600 MHz 3550 – 3800 MHz				
CHANNEL WIDTH	5 MHz, 10 MHz or 20 MHz											
INTERFACE												
MAC (MEDIA ACCESS CONTROL) LAYER	CAMBIUM NETWORKS PROPRIETARY											
PHYSICAL LAYER	2x2 MIMO OFDM											
ETHERNET INTERFACE	10/100/1000BaseT, half/full duplex, rate auto negotiated (802.3 compliant)											
PROTOCOLS USED	11Pv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP											
NETWORK MANAGEMENT	HTTP, Telnet, FTP, SNMP v2c											
VLAN	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID											
PERFORMANCE												
SUBSCRIBERS PER SECTOR	UP TO 238											
ARQ	YES											
MODULATION LEVELS (ADAPTIVE)	MCS							SIGNAL TO NOISE REQUIRED (SNR, IN dB)				
1X	QPSK – SISO							10				
2X	QPSK – MIMO-B							10				
4X	16QAM – MIMO-B							17				
6X	64QAM – MIMO-B							24				
8X	256QAM – MIMO-B							32				
RECEIVE SENSITIVITY (PER CHAIN, IN dB)	2.4GHz				3 GHz				5GHz			
	1X/2X	4X	6X	8X	1X/2X	4X	6X	8X	1X/2X	4X	6X	8X
@ 5MHZ CHANNEL	-93	87	-78	-66	-89	-83	-76	-68	-88	-82	-75	-64
@ 10MHZ CHANNEL	-89	-82	-75	-66	-87	-80	-74	-68	-86	-79	-71	-62
@ 20MHZ CHANNEL	-86	-80	-73	-66	-84	-78	-71	-64	-84	-77	-70	-60
MAXIMUM DEPLOYMENT RANGE	UP TO 40 MILES											
LATENCY	3 - 5 ms, TYPICAL											
GPS SYNCHRONIZATION	YES, VIA AUTOSYNC (CMM3, CMM4, uGPS, iGPS)											
QUALITY OF SERVICE	DIFFSERVE QoS											
LINK BUDGET												
ANTENNA BEAM WIDTH (SEE ANTENNA SPEC SHEET FOR MORE DETAIL & RPE)	5 GHz - 60° OR 90° SECTORS (DUAL POLARITY, H + V) 2.4 GHz - 60° SECTOR (DUAL SLANT) 3 GHz - 90° SECTOR (DUAL SLANT)											
TRANSMIT POWER RANGE	-30 TO +22 dBm (COMBINED, TO EIRP LIMIT BY REGION) (1 dB INTERVAL) (+23 dBm FOR 3 GHz)											
ANTENNA GAIN	5 GHz - 17 dBi H+V (SECTOR ANTENNA AVAILABLE FOR EITHER 60° OR 90°) 2.4 GHz - 17 dBi DUAL SLANT (SECTOR ANTENNA AVAILABLE FOR 60°) 3 GHz - 17 dBi DUAL SLANT (SECTOR ANTENNA AVAILABLE FOR 90°)											
MAXIMUM TRANSMIT POWER	22 dBm COMBINED (23 dBm COMBINED FOR 3 GHz)											

EXHIBIT 4 JADE'S ACCESS POINT & SUBSCRIBER EQUIPMENT

SPECIFICATION SHEET: PMP 450 ACCESS POINT

PHYSICAL	
ANTENNA CONNECTION	50 ohm, N-TYPE
SURGE SUPPRESSION	IEC 61000-4-2 (ESD) 15kV (AIR), 8kV (contact) IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (LIGHTNING) 25A (8/20µS)
MEAN TIME BETWEEN FAILURE	> 40 YEARS
ENVIRONMENTAL	IP67, IP66
TEMPERATURE	-40°C TO +55°C (-40°F TO +131°F), 0-95% NON-CONDESNSING
WEIGHT	2.5 kg (5.5 lbs)
WIND SURVIVAL	190 km/hour (118 mi/hour)
DIMENSIONS (HxWxD)	RADIO: 27x21x7 cm (10.6"x8.3"x2.8")
TYPICAL POWER CONSUMPTION	11 W (5 GHz AND 2.4 GHz), 12 W (3 GHz)
MAXIMUM POWER CONSUMPTION	14 W (5 GHz AND 2.4 GHz), 15 W (3 GHz)
INPUT VOLTAGE	22 TO 32 VDC
SECURITY	
ENCRYPTION	56-bit DES, FIPS-197 128-bit AES
CERTIFICATIONS	
INDUSTRY CANADA	109W-0002 (5.4, 5.8 GHz) 109W-0004 (2.4 GHz) 109W-0008 (3.5 GHz) 109W-0010 (3.65 GHz)
FCC ID	Z8H89FT0002 (5.4, 5.8 GHz) Z8H89FT0004 (2.4 GHz) Z8H89FT0010 (3.65 GHz)
CE	EN 301 893 V1.6.1 (5.4 GHz) EN 302 502 V1.2.1 (5.8 GHz) EN 302 326-2 V1.2.2 (3 GHz) EN 302 326-3 V1.3.1 (3 GHz)

PMP 450 Subscriber Module

VERTICAL MARKETS AND SOLUTIONS

WIRELESS SERVICE PROVIDERS (WISPs)

- Rural connectivity
- Municipal connectivity
- Remote office connectivity
- Primary or redundant connectivity

GOVERNMENT PUBLIC SAFETY SECTOR

- Data Connectivity and Video Surveillance for Public Safety
- Disaster Recovery for Public Service
- Data Network for Public Works

ENTERPRISES

- Video surveillance backhaul
- Device/site monitoring
- LAN extension
- Leased line replacement



PMP 450 Subscriber Module

Introduction

The Cambium Networks PMP 450 is our industry-leading wireless access network platform. Our solution is ideal for industry verticals such as WISPs (Wireless Service Providers), Enterprises and the Government Public Safety Sector. Designed for fixed outdoor applications, the PMP 450 platform is optimized for rate, reach, reliability and throughput. It features the most resilient and effective set of wireless broadband technologies in the marketplace.

Now available in most popular global bands, 2.4, 3.5, 3.65 and 5 GHz, the Cambium Networks Point-to-Multipoint (PMP) 450 Subscriber Module (SM) supports tiered service models. Software defined upgrades allow throughput from 4 Mbps to 55 Mbps and as a result improve revenue optimization.

From the innovative GPS Synchronization options to interoperability with existing portfolio modules, the PMP 450 provides flexible deployment options that make it an excellent fit for high capacity, high reliability networks.

Main Differentiators

» MAXIMIZED SPECTRAL EFFICIENCY IN DENSE SERVICES AREAS

is enabled by our innovative GPS Sync Technology in combination with long range and high density coverage. This allows for configuration of more subscribers utilizing fewer access points, while preserving quality of service in spectrum-constrained environments. By lowering installation costs and maintenance, GPS Sync reduces operating expenses and improves growth and profitability.

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» **CARRIER-GRADE RELIABLE HARDWARE** by Cambium Networks is constructed from high quality industrial components; it is outdoor-rated and rigorously tested to satisfy the most difficult environmental conditions. With 40-year MTBF, our equipment standards are unsurpassed in industries requiring fixed wireless broadband.

Powerful Features

The Cambium Networks PMP 450 platform is designed for growth. It allows service providers to efficiently and cost-effectively offer popular multi-media services that maximize their revenue - high-speed data and cloud access, video on demand, reliable fixed voice and VoIP. The PMP 450 solution provides reliable coverage across large service areas in urban, suburban, rural and remote locations.

2x2 MIMO-OFDM technology allows dual stream operation for most channel conditions, guaranteeing successful deployment of wireless networks in challenging environments.

Low latency of 3 - 5 ms effectively supports video and VoIP services. **Flexible channel width** (5, 10 and 20 MHz) allows users to select the most effective channel width for the current network environment. **256-QAM** modulation rate offers the unique ability to use the PMP 450 platform for services requiring fast and reliable transmission. **System performance** is ensured by vigorous testing with a compatible set of radios, guaranteeing predictable link budget results. Cambium Networks specifications are consistent with real life conditions.

PRODUCT												
MODEL NUMBERS (-005A THROUGH -008A ARE CONNECTORIZED)		4 Mbps			10 Mbps			20 Mbps			UNCAPPED	
	5 GHz	C054045C001A C054045C005A			C054045C002A C054045C006A			C054045C003A C054045C007A			C054045C004A C054045C008A	
	2.4 GHz	C024045C001A C024045C005A			C024045C002A C024045C006A			C024045C003A C024045C007A			C024045C004A C024045C008A	
	3.3-3.6 GHz	C035045C001A C035045C005A			C035045C002A C035045C006A			C035045C003A C035045C007A			C035045C004A C035045C008A	
	3.55-3.8 GHz	C036045C001A C036045C005A			C036045C002A C036045C006A			C036045C003A C036045C007A			C036045C004A C036045C008A	
SPECTRUM												
CHANNEL SPACING	CONFIGURABLE ON 2.5 MHz INCREMENTS, SELECTABLE TO 50 KHz AT 3 GHz FREQUENCY											
FREQUENCY RANGE	5470 - 5875 MHz 2400 - 2483.5 MHz							3300 - 3600 MHz 3550 - 3800 MHz				
CHANNEL WIDTH	5 MHz, 10 MHz or 20 MHz											
INTERFACE												
MAC (MEDIA ACCESS CONTROL) LAYER	CAMBIUM NETWORKS PROPRIETARY											
PHYSICAL LAYER	2x2 MIMO OFDM											
ETHERNET INTERFACE	10/100/BaseT, half/full duplex, rate auto negotiated (802.3 compliant)											
PROTOCOLS USED	IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP											
NETWORK MANAGEMENT	HTTP, Telnet, FTP, SNMP v2c											
VLAN	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID											
PERFORMANCE												
ARQ	YES											
MODULATION LEVELS (ADAPTIVE)	MCS							SIGNAL TO NOISE REQUIRED (SNR, in dB)				
1X	QPSK - SISO							10				
2X	QPSK - MIMO-B							10				
4X	16QAM - MIMO-B							17				
6X	64QAM - MIMO-B							24				
8X	256QAM - MIMO-B							32				
RECEIVE SENSITIVITY (PER CHAIN, IN dB)	2.4GHz				3 GHz				5GHz			
	1X/2X	4X	6X	8X	1X/2X	4X	6X	8X	1X/2X	4X	6X	8X
@ 5MHZ CHANNEL	-91	-86	-78	-68	-92	-86	-80	-73	-91	-85	-79	-69
@ 10MHZ CHANNEL	-90	-83	-77	-65	-90	-83	-77	-70	-90	-83	-76	-64
@ 20MHZ CHANNEL	-86	-80	-76	-66	-87	-80	-73	-66	-87	-80	-72	-62
MAXIMUM DEPLOYMENT RANGE	UP TO 40 MILES											
LATENCY	3 - 5 ms, TYPICAL											
GPS SYNCHRONIZATION	YES, VIA AUTOSYNC (CMM3, CMM4, uGPS, iGPS)											
QUALITY OF SERVICE	DIFFSERVE QoS											
LINK BUDGET												
ANTENNA BEAM WIDTH	55° AZIMUTH, 55° ELEVATION (BOTH POLARIZATIONS)											
ANTENNA GAIN	9 dBi H+V, INTEGRATED PATCH (5 GHz) 8 dBi DUAL SLANT, INTEGRATED PATCH (2.4 GHz, 3 GHz)											
TRANSMIT POWER RANGE	-30 TO +22 dBm (COMBINED, TO EIRP LIMIT BY REGION) (1 dB INTERVAL) (+23 dBm FOR 3 GHz)											
MAXIMUM TRANSMIT POWER	22 dBm COMBINED OFDM (+23 dBm FOR 3 GHz)											
REFLECTOR GAIN	+14 dBi FOR 5 GHz, +12 dBi FOR 2.4 GHz AND 3 GHz											
CLIP GAIN	+8 dBi (WITH CLIP (CASSEGRAIN LENS FOR IMPROVED PERFORMANCE), FOR 5 GHz ONLY)											

EXHIBIT 4 JADE'S ACCESS POINT & SUBSCRIBER EQUIPMENT

SPECIFICATION SHEET: PMP 450 SUBSCRIBER MODULE

PHYSICAL	
ANTENNA CONNECTION	INTEGRATED PATCH ANTENNA, CONNECTORIZED VERSIONS AVAILABLE
SURGE SUPPRESSION	IEC 61000-4-2 (ESD) 15kV (AIR), 8kV (contact) IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (LIGHTNING) 100A (8/20μS)
MEAN TIME BETWEEN FAILURE	> 40 YEARS
ENVIRONMENTAL	IP55
TEMPERATURE	-40°C TO +55°C (-40°F TO +131°F), 0-95% NON-CONDESNSING
WEIGHT	0.45 kg (1 lb.)
WIND SURVIVAL	190 km/hour (118 mi/hour)
DIMENSIONS (HxWxD)	30 x 9 x 9 cm (11.75" x 3.4" x 3.4")
TYPICAL POWER CONSUMPTION	9 W (5 GHz AND 2.4 GHz), 12 W (3 GHz)
MAXIMUM POWER CONSUMPTION	12 W (5 GHz AND 2.4 GHz), 15 W (3 GHz)
INPUT VOLTAGE	20 TO 32 V
SECURITY	
ENCRYPTION	56-bit DES, FIPS-197 128-bit AES
CERTIFICATIONS	
INDUSTRY CANADA	109W-0001 (5.4, 5.8 GHz) 109W-0003 (2.4 GHz) 109W-0007 (3.5 GHZ) 109W-0009 (3.65 GHz)
FCC ID	Z8H89FT0001 (5.4, 5.8 GHz) Z8H89FT0003 (2.4 GHz) Z8H89FT0009 (3.65 GHz)
CE	EN 301 893 V1.6.1 (5.4 GHz) EN 302 502 V1.2.1 (5.8 GHz) EN 302 326-2 V1.2.2 (3 GHz) EN 302 326-3 V1.3.1 (3 GHz)

CLOSE UP VIEW OF PARTIAL COVERAGE AREA

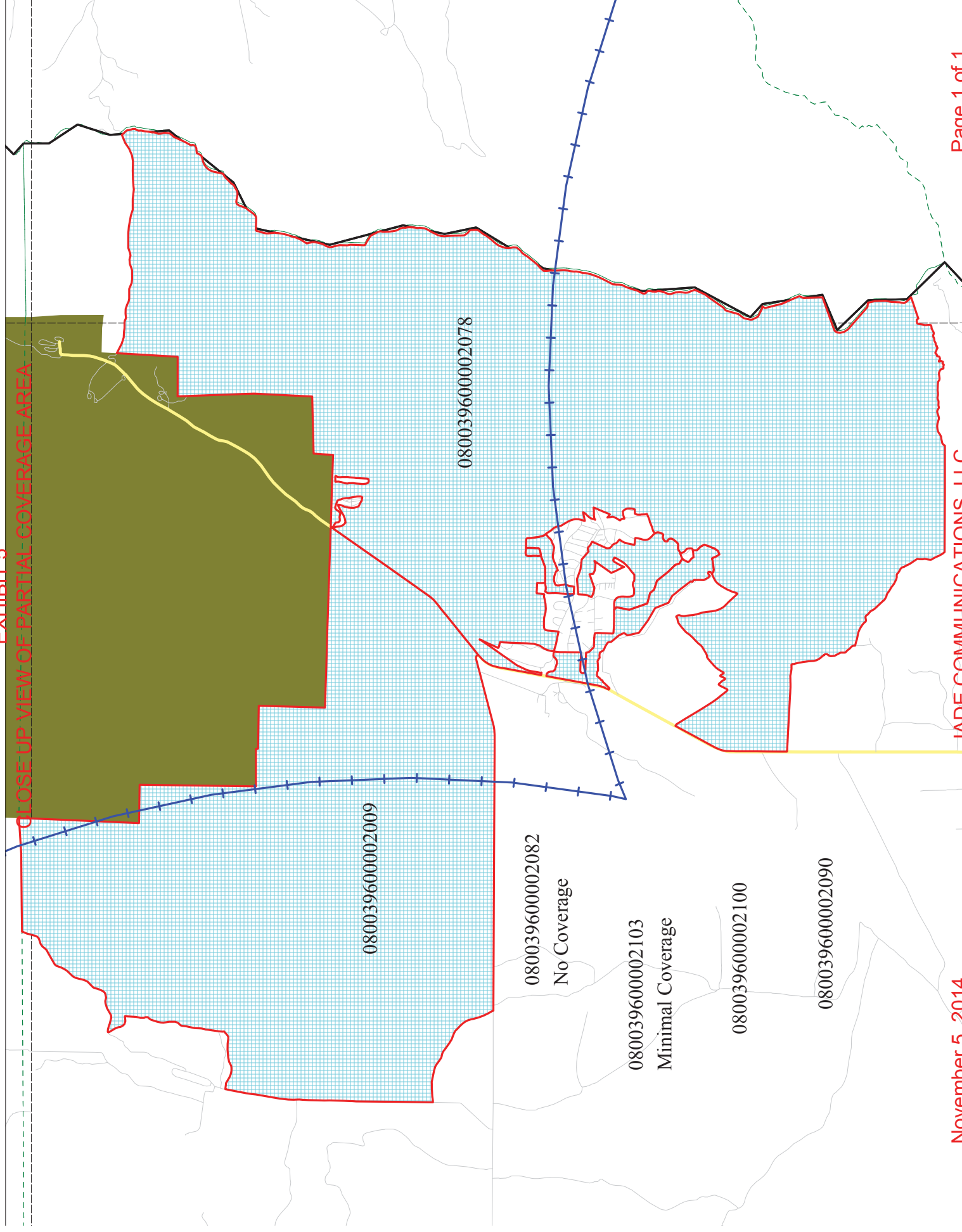


EXHIBIT 6
FCC LISTING OF 2008 FCC FORM 477 FILERS

	A	B	C	D	E
1	FCC Form 477 Broadband Filers as of December 31, 2008				
2	(as submitted in filings made or revised as of April 7, 2010)				
3	State	Filing Holding Company Name	FRN	Filing Company Name	ILEC or Non-ILEC
430	Colorado	iLOKA Inc. d/b/a Microtech-tel	0007651219	iLOKA Inc. d/b/a Microtech-tel	Non-ILEC
431	Colorado	Impact Telecom, LLC	0013619408	Impact Telecom, LLC	Non-ILEC
432	Colorado	Integra Telecom Holdings, Inc.	0003767852	Eschelon Telecom of Colorado, Inc.	Non-ILEC
433	Colorado	Internet Colorado, LLC	0015866460	Internet Colorado, LLC	Non-ILEC
434	Colorado	JAB Wireless, Inc.	0014175673	LP Broadband, Inc.	Non-ILEC
435	Colorado	Jade Communications LLC	0003766623	Jade Communications LLC	Non-ILEC
436	Colorado	James Cable, LLC	0016914137	James Cable LLC	Non-ILEC
437	Colorado	JED Enterprises, Inc	0003728284	JED Enterprises, Inc	ILEC
438	Colorado	Kentec Communications, Inc.	0001611334	Kentec Communications Inc	Non-ILEC
439	Colorado	KeyOn Communications Holdings, Inc.	0017179763	KeyOn Communications Holdings, Inc.	Non-ILEC
440	Colorado	Leap Wireless International, Inc.	0002963528	Leap Wireless International, Inc.	Non-ILEC
441	Colorado	Level 3 Communications, LLC	0003723822	Level 3 Communications, LLC	Non-ILEC

EXHIBIT 6
FCC LISTING OF 2008 FCC FORM 477 FILERS

	A	B	C	D	E
1	FCC Form 477 Local Exchange Telephone or Interconnected VoIP Filers as of December 31, 2008				
2	(as submitted in filings made or revised as of April 7, 2010)				
3	State	Filing Holding Company Name	FRN	Filing Company Name	ILEC or Non-ILEC
576	Colorado	Integra Telecom Holdings, Inc.	0003767852	Eschelon Telecom of Colorado, Inc.	Non-ILEC
577	Colorado	Internet Colorado, LLC	0015866460	Internet Colorado, LLC	Non-ILEC
578	Colorado	IP Communications, LLC.	0014061519	IP Communications, LLC.	Non-ILEC
579	Colorado	IP Retail, Inc.	0016795155	IP Retail, Inc.	Non-ILEC
580	Colorado	IPtimize, inc.	0015580244	IPtimize, inc.	Non-ILEC
581	Colorado	Jade Communications LLC	0003766623	Jade Communications LLC	Non-ILEC
582	Colorado	JED Enterprises, Inc	0003728284	JED Enterprises, Inc	ILEC
583	Colorado	Kentec Communications, Inc.	0001611334	Kentec Communications Inc	Non-ILEC
584	Colorado	Kosmaz Technologies LLC	0014855084	Kosmaz Technologies LLC	Non-ILEC
585	Colorado	Level 3 Communications, LLC	0003723822	Level 3 Communications, LLC	Non-ILEC
586	Colorado	Liberty-Bell, LLC	0010436087	Liberty-Bell Telecom, LLC	Non-ILEC

CERTIFICATION

I, Alan Wehe, hereby certify, subject to the penalties for false statements imposed under 18 U.S.C. § 1001, that I am the President, General Manager, and 50% owner of Jade Communications, LLC, that I have reviewed the foregoing STATEMENT OPPOSING SERVED-TO-UNSERVED CHALLENGES FILED BY FAIRPOINT COMMUNICATIONS AND CENTURYLINK, that I am personally familiar with the factual assertions made therein regarding Jade Communications, LLC, that I am personally familiar with the business and technical operations of Jade Communications, LLC, and that the factual statements made within the STATEMENT OPPOSING SERVED-TO-UNSERVED CHALLENGES FILED BY FAIRPOINT COMMUNICATIONS AND CENTURYLINK are true and accurate to the best of my knowledge, information, and belief.



Alan Wehe, President
Jade Communications, LLC

November 10, 2014